

REMARKS

Claims 1 and 3-16 are pending.

Response to Claim Rejections Under § 103

Claims 1 and 3-16 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over JP 2002-241608 to Kikuchi et al. in view of U.S. Patent Application Publication No. 2003/0130405 to Takagi et al. Applicants respectfully traverse.

The Examiner asserts that Kikuchi discloses an oxygen-absorbing resin composition that constitutes the island portion of the present invention. Though acknowledging that Kikuchi does not disclose or suggest a resin composition as the island portion in an islands-in-sea structure with an additional resin component as the sea portion, the Examiner cites Takagi as teaching an islands-in-sea micro structure constituted by Takagi's components A and B. According to the Examiner, it would have been obvious to combine the island-and-sea micro structure of Takagi with the resin composition of Kikuchi. This is because the island-and-sea micro structure of Takagi is suited to enable a thermoplastic resin to have improved molding workability and excellent mechanical properties, thus producing a packing container with excellent oxygen absorbing properties and processability.

In response, Applicants respectfully submit that even if the cited references are combined, the presently claimed invention would not be obtained. More particularly, the rejection should be withdrawn because the combination of Kikuchi and Takagi does not teach or suggest a ratio N/M of not smaller than 20 cm^{-1} as required by Claim 1.

The oxygen absorbing functional component of the present invention is finely dispersed in order to increase the whole surface area and thereby improve the oxygen absorbing property and gas-barrier property from a time when the content is first filled. The effect of attaining the

oxygen-absorbing property from the beginning of filling the container is achieved by selecting an average particle size of the island portions to be not larger than 3.5 μm and by setting a ratio, N/M , of the total surface area N of the island portions and the volume M of the packing container to be not smaller than 20 cm^{-1} . The effect of attaining the oxygen-absorbing property from the beginning of filling the container is not achieved by the resin composition of Kikuchi that simply has an islands-in-sea structure.

Takagi discloses an islands-in-sea structure, wherein carbon black is present in the amorphous thermoplastic resin that forms island portions, and hollow carbon fibrils are present in the crystalline thermoplastic resin that forms the sea portion, to thereby attain mechanical strength and heat resistance, as well as electric conductivity and antistatic property. Takagi further discloses that the island phase has a long diameter of 0.1 to 10 μm , and the island portion has a weight average particle size of not smaller than 3 μm . Takagi does not at all disclose or suggest forming many small islands in order to increase the total surface area of the island portions so that the ratio N/M exceeds 20.

In this regard, the Examiner considered that the presently claimed ratio of the total surface area of the island portions and the volume of the packing container being not smaller than 20 cm^{-1} is a result effective variable. However, the Examiner then takes the position, without support in the cited art that "...it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the ratio (N/M) in the oxygen absorbing layers."

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. See MPEP

§2144.05. In this regard, there is nothing in the cited art which recognizes the ratio, N/M , of the total surface area N of the island portions and the volume M of the packing container, as a result effective variable. Namely, Kikuchi and Takagi have no disclosure with respect to forming many small islands with a particular ratio N/M at all, let alone the conditions that a skilled artisan would need to optimize so as to achieve the invention of present Claim 1. Thus, contrary to the Examiner's position, it would not have been obvious to optimize the ratio (N/M) in the oxygen absorbing layers, given the disclosures of Kikuchi and Takagi.

In addition, Applicants ask the Examiner to consider the results of Comparative Example 2 of the present specification. In Comparative Example 2, an islands-in-sea structure is formed, wherein the island portions have an average particle size of $4.30\text{ }\mu\text{m}$ and the ratio N/M is 7.4, which are outside the presently claimed respective ranges. As a result, the container of Comparative Example 2 has a concentration of oxygen dissolved in water which is inferior to those of the containers that have ratios N/M of not smaller than 20 (i.e., Examples 1 to 10).

Thus, even if one skilled in the art did combine Kikuchi with Takagi, the present invention, as defined by present Claim 1, would not be obtained. Accordingly, withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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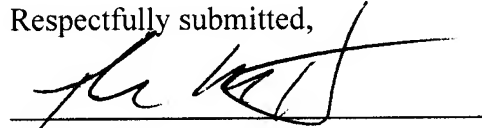
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Date: December 30, 2010